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Aerotropolis. In contemporary urban planning, a land use development form consisting of aviation-intensive businesses and related enterprises surrounding a major airport, which serves as its core. Defined in 2000, the concept is based on airports as drivers of local economic development as well as hubs of global communications and trade.

All-cargo carrier. An air carrier certificated to provide scheduled air freight, express, and mail transportation over specified routes; may also conduct nonscheduled operations that may include passengers.

Air cargo. Commercial freight, including express packages and mail, transported by passenger or dedicated cargo airplanes.

At-grade crossing. An intersection of travelled ways – e.g., highways, rail lines, or walkways – at the same vertical elevation. (Also see *Highway-rail at-grade crossing*.)

Backhaul. The process of a transportation vehicle (typically a truck) returning from a destination to the point of origin; transporting a load of cargo on a return trip from delivering a previous load; a carrier's return movement of cargo.

Ballast water. Water carried onboard a ship to increase stability or to achieve a desired depth. Ballast water is typically taken onboard a ship in one location and discharged in another, thus creating the possibility for distributing non-native and invasive plants, animals, viruses, and microorganisms.

Barge. A large, non-motorized, usually flat-bottomed, cargo-carrying water vessel towed or pushed by other craft, used for transporting freight (often bulk commodities) on rivers and other waterways. Basic barges have open tops; covered barges also are used for both dry and liquid cargoes. A standard size is 200 feet long and 35 feet wide, with a draft of 9 feet; a single barge can hold 1,500 tons of cargo – approximately equivalent to 15 railcars or 60 trucks.

Berth. Wharf space at which a ship docks. A wharf may have several berths, depending on the length of the ships accommodated. To berth (verb) a ship is to bring a ship into such a space.

Belly cargo. Air freight carried in the belly of passenger aircraft.

Beneficial (cargo) owner. The person who or legal entity that owns or has title to the freight being transported. The importer of record, who is named as shipper or consignee on a bill of lading, or any person who physically takes possession of cargo at a destination and does not act as a third party in the movement of such goods.

Bill of lading. A contract between a shipper and a carrier listing the terms and conditions for moving freight between specified points. Serves as a receipt for goods and a contract to deliver it as freight.

Bobtail. Motor carrier slang for a non-revenue movement of a tractor without a trailer or chassis attached.

Boxcar. An enclosed railcar, typically 40 or more feet long, used for packaged freight and some bulk commodities.

Bottleneck. A section of a highway or rail network that experiences operational problems such as congestion. Bottlenecks may result from factors such as major intersections, reduced roadway width, or steep grades that can slow trucks.

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Breakbulk cargo. Non-containerized, general cargo of non-uniform sizes, often transported on pallets or in boxes, sacks, drums, or bags. These cargoes require labor-intensive loading and unloading processes. Examples of breakbulk cargo include iron, machinery, coffee beans, logs, and woodpulp.

Bulk cargo. Loose cargo that is unbound as loaded or mechanically conveyed, without count and in an unpackaged form. May be dry bulk or liquid bulk. Examples of bulk cargo include coal, grains, ore, cement, and petroleum products.

Bunker fuel. A low-grade fuel oil used to power ocean-going ships. By state law (2008), vessels are required to switch from bunker fuel to cleaner, low-sulfur fuel when sailing within 24 miles of the California coast.

Cabotage. Transport of goods between two points in the same country by a vessel, aircraft, or vehicle registered in another country. The term originated in the shipping industry but is now used in aviation, rail, and highway transport. Commonly used as part of the term "cabotage rights," the right of a company from one country to trade in another country. Permission to engage in cabotage is, in general, strictly restricted in every country.

Capacity. The physical facilities, personnel and process available to meet the product of service needs of the customers. Capacity generally refers to the maximum output or producing ability of a machine, a person, a process, a factory, a product, or a service. In regards to the transportation system, this term references the ability of the transportation infrastructure to accommodate traffic flow.

Cartage. Pick up or delivery of freight within commercial zone of a city by local carrier acting as agent for a shipper or over-the-rail carrier. May also refer to the fees for such activity. Originally, the process of transporting by cart.

Chassis. A metal trailer frame or undercarriage with tires, brakes, and lights that is designed to be pulled by a truck for over-the-road transportation of shipping containers, which are lifted on and off the chassis. Port authorities, major shipping companies, and others may operate **Regional Chassis Pools**, where carriers that contribute to the pool may also lease any chassis from the pool regardless of ownership.

Class I railroad. A large freight rail carrier having annual operating revenues of \$250 million or more as adjusted annually for inflation (using the base year of 1991) by the Surface Transportation Board (STB). This group includes the nation's major railroads.

Class II railroad. A freight rail carrier having annual operating revenues of less than \$250 million but more than \$20 million, as set and adjusted by the STB (using the base year of 1991). Class II railroads are considered mid-sized freight-hauling railroads in terms of operating revenues. They are considered "regional railroads" by the Association of American Railroads.

Class III railroad. Railroads with annual operating revenues of \$20 million or less, as set and adjusted by the STB (using the base year of 1991). The typical Class III is a **short line** railroad, which feeds traffic to or delivers traffic from a Class I or Class II railroad. All switching and terminal rail companies are Class III railroads, regardless of operating revenues.

Classification. Grouping of railcars in a rail yard in accordance with train movement requirements, usually by destination station or junction. A yard where such activity takes place may be called a **classification yard**.

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Clearance. In goods movement generally, the distance between a limiting piece of infrastructure and a vehicle – e.g., the clearance under a bridge to allow the passage of a large ship into a port. In rail transport, the ability of a shipment to pass through tunnels and bridges based on the structure's limiting dimensions – e.g., railroad tunnels generally need to be more than approximately 20 feet in height to provide sufficient clearance for double-stack container trains.

Coastal shipping (or *short-sea* or *coastwise shipping*). Commercial marine shipping operations between ports along a single coast or involving a short sea crossing.

Cold-ironing. Shutting down the auxiliary engines on ships (in addition to the propulsion engines) while in port and connecting to electrical power supplied at the dock, thus substantially reducing air pollutant emissions. Originally a shipping industry term that referred to the literal cooling of engines or vessels when in dry dock or port. Also called ***shore power*** or ***alternative marine power***. (Opposite: see "***hotelling***").

Common carrier. A person or business (e.g., trucking firm, railroad, ship, or barge line) that is available for hire to transport goods or people for a fee. A common carrier is legally bound to carry all passengers or freight as long as there is enough space, the fee is paid, and no reasonable grounds exist to refuse to provide the service. A common carrier engaged in business within a state's borders is regulated by the state; a common carrier involved in interstate or foreign transportation is regulated by the federal government.

Container and container shipping. A container is a large, standard-size, weather-tight, metal box into which cargo is packed for shipment aboard specially configured, ocean-going containerships. It is designed to be moved with common handling equipment enabling high-speed intermodal transfers in economically large units between ships, railcars, truck chassis, and barges using a minimum of labor. The use of containers began in the United States in the 1950s and revolutionized intermodal freight transport. International shipping containers are commonly 20 or 40 feet in length. U.S. domestic standard containers are larger, generally 48 or 53 feet (rail and truck).

Container terminal. A facility where cargo containers are transshipped from one vehicle or one mode of transportation to another for continued transport. Such a facility at a port, where ocean-going container vessels dock to discharge and load containers by cranes is a ***maritime container terminal***. A facility where the transshipment is between land vehicles, such as between trucks and trains, is an ***inland container terminal***. (Also see ***Terminal***.)

Container throughput. A measure of the number of containers handled over a period of time; a measure of productivity for a seaport or terminal.

Container on Flatcar (COFC). Containers carried on railroad flatcars without the container being mounted on a chassis.

Conventional (rail) car. An intermodal flat car designed to carry single-stacked trailers or containers, used for shipment of one or two trailers and about 89 feet long with a tare weight of about 35 tons.

Corridor of the Future. Any of six interstate routes identified by the U.S. Department of Transportation in 2007 to participate in a federal initiative to develop multi-state corridors to help reduce congestion (Interstates 5, 10, 15, 69, 70, and 95).

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Crossdock facility. A materials-handling facility used in the short-turn-around transfer of intermodal rail or truck freight. Incoming shipments are transferred directly to outgoing trailers with little or no storage. Shipments may spend less than 24 hours at such facilities, sometimes less than an hour.

Cross-sectoral. Relating to or affecting more than one group, area, or section; in goods movement, may refer to impacts or vulnerabilities in one sector that may affect other sectors.

Customs. A tax or duty imposed on imported goods. Also may refer to the U.S. Customs and Border Protection agency, a unit of the Department of Homeland Security, which collects such fees and also works to prevent terrorists from entering the country, enforce immigration and drug law, and prevent the importation of illegal cargo.

Dead mileage (also called **deadheading**). In freight transportation, the operation of a carrier service in a non-revenue mode – e.g., making a trip without freight, a return (backhaul) trip to a home terminal or base, or a vehicle's crew travelling as passengers. Movement of a paid crew (e.g., in a truck or on a freight train or ship) without performing goods movement service. In rail transportation use, may also apply to one locomotive hauled by another.

Declared gross vehicle weight (GVW). The weight equal to the total unladen weight of the vehicle plus the heaviest load that it will transport.

Declared combined gross vehicle weight (CGW). The total unladen weight of the combination of vehicles (motor truck and trailer) plus the heaviest load that will be transported by that combination.

Deep-sea shipping vessels. Ocean-going ships that transport cargo to and from seaports. Vessels include **dry bulk carriers**, which transport commodities such as iron ore, coal, and food; **liquid bulk carriers** such as tankers that ship crude oil, chemicals, and petroleum products; diesel-powered **container ships** that transport imports and exports in standardized containers; **general cargo** ships; and **roll on-roll off (Ro/Ro)** vessels that transport wheeled cargo such as cars, trucks, and trains.

Deep-sea shipping service / liner, charter, and tanker service. **Liner service** involves regular, scheduled stops at ports along a fixed route. Liner routes are dominated by container ships transporting manufactured goods. **Charter service**, also known as **tramp shipping**, is an "as-needed" mode of shipping, which moves between ports based on cargo availability; tramps inexpensively transport a single form of dry bulk cargo (e.g., grain, coal, ore, sugar) for a single shipper. **Tanker service** transports crude oil, petroleum, and other liquid products. Tankers can be chartered, but most are owned and operated by major oil companies.

Demurrage. The detention of a freight car or ship by the shipper beyond the permitted time (grace period) for loading or unloading. In maritime use, a penalty fee imposed for unreasonable delay in loading or unloading cargo or damages payable by a ship charterer to the ship owner as compensation for lost time – e.g., when a chartered ship is not returned to the owner by a specified date. In rail use, a charge assessed by railroads for the detention of rail cars by shippers or receivers beyond a specified free time.

Distribution Center (DC). A strategically located warehouse-type facility, often highly automated, that receives, sorts, processes, temporarily stores, and redistributes inventory (products, goods) to retailers, wholesalers, or consumers. May or may not be dedicated to a single retail organization. DCs may also perform value-added services, such as consolidation, packaging, light assembly,

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labeling, and performance tracking. May also be called a fulfillment center, cross-dock facility, break bulk center, or package handling center.

Dock. A space used for loading or receiving merchandise at a freight terminal.

Double-stack. Railcar movement of containers stacked two units high.

Draft. The vertical distance (depth) of a vessel from its waterline to the deepest point of its hull. Draft, which varies according to how much cargo the vessel is carrying, determines the minimum depth of water a vessel can safely navigate.

Drayage. Transportation of freight (often containers from railyard or seaports) by truck typically over a relatively short distance to an intermediate or final destination; may also refer to a charge for pickup/delivery of goods moving short distances (e.g., from marine terminal to warehouse). Originally, the term **dray** referred to a cart, usually three-sided, used to haul goods.

Dredge. To remove sediment from the bottom of a harbor channel, river, or other waterway to improve the passage for vessels. A waterborne machine used for this purpose.

Dry Bulk Cargo. Cargo loaded or unloaded by means of conveyor belts, spouts, or scoops, and not placed individually; flowing cargoes such as rice, grain, various ores, etc.; stored loose.

Environmental justice. The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Export. To send or transport goods abroad for trade or sale (opposite, see **Import**).

Farm-to-market corridor. The U.S. Department of Transportation (U.S. DOT) has designated State Route (SR) 99 from south of Bakersfield to Sacramento as the California Farm-to-Market Corridor, a High Priority Corridor on the National Highway System.

Fifth wheel. The semi-circular steel coupling device mounted on a tractor which engages and locks with a chassis semi-trailer.

Flip-line. An area of a terminal or yard designated for mounting containers on chassis or exchanging (switching out) one chassis for another. Switching out chassis may be done for various reasons – e.g., because the chassis is defective, or to change from a yard chassis to a highway chassis, or because the driver is required to match ownership of the container to ownership of the chassis. To **flip** may refer to picking a container up off the ground and mounting it on a chassis for highway transport.

Flatcar. In rail transportation, a freight rail car that has a floor without any housing or body above, frequently used to carry containers and trailers or oversized and odd-shaped commodities.

Focus Routes. Identified in the Caltrans Interregional Transportation Strategic Plan (ITSP), this subset of the **High Emphasis Routes** highlights the State's highest priority routes that, when complete, will connect all urban areas and geographic goods movement gateways, as well as link rural and small urban areas to the trunk system.

Fork lift. A machine used to pick up and move goods loaded on pallets or skids.

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Free Trade Zone or Foreign Trade Zone. A designated, sometimes enclosed area, often associated with a seaport or international airport, where goods can be landed, stored, processed, and re-exported duty-free without intervention by customs authorities.

Freight forwarder. A person or company whose business is to act as an agent on behalf of a shipper. A freight forwarder frequently consolidates several shipments from various shippers into one large shipment and coordinates booking reservations. Upon reaching the destination, the shipment is separated into small shipments and delivered.

Gantry crane. A track-mounted, shoreside crane used in loading or unloading of cargo.

Gate. In goods movement, the location or structure at a port of entry, seaport, or intermodal terminal where trucks are cleared to enter or exit. Increasingly, gate entry procedures are automated to confirm required information about the vehicle, the load, and compliance with applicable rules.

General aviation (GA). Any civilian aviation activity other than regularly scheduled commercial passenger airlines or military operations.

General cargo. In contrast to bulk cargo, any containerized or *breakbulk* goods.

Gondola. In rail transportation, a freight car with sides and no roof.

Goods movement. The processes and activities involved in picking up, moving, and delivering products or raw materials from points of origin (or producers) to points of delivery or use (or consumers). Goods movement relies on transportation, financial, and information systems that involve global, international, national, interstate, statewide, regional, and local networks.

Grade separation. A construction design in which travelled ways – e.g., highways, railroad lines, or pedestrian walkways – cross under or over each other at different vertical elevations in order to avoid conflicts.

Green equipment. In goods movement, vehicles (such as trucks and locomotives) and cargo-handling equipment that uses emission-reducing technologies. *Green locomotives*, for example, use alternative forms of energy from diesel, thus reducing air pollutant emissions. *Hybrid locomotives* feature a bank of batteries and a small diesel engine that is used to recharge the batteries – e.g., “Green Goat” (BNSF) yard-switcher locomotives. *GenSet* locomotives have multiple engines operating in tandem rather than a single engine.

Greenhouse gas (GHG). Gases that trap heat in the atmosphere and thus potentially influence climate change, such as carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Ground handling. In aviation, the servicing of an aircraft while it is on the ground and usually parked at a terminal gate of an airport.

Gross vehicle weight. The combined total weight of a vehicle and its freight.

Hazardous Material (or “HazMat”). A substance or material that, because of its quantity, concentration, or physical or chemical characteristics, may cause or significantly pose a substantial hazard to human health or the environment when improperly packaged, stored, transported, or otherwise managed.

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Heavy hauler. A truck equipped to handle unusually heavy loads (e.g., steel, heavy machinery, transformers, boats, bulldozers, etc.).

High Emphasis Routes. Highways having the State's highest priority for programming to meet freeway/expressway standards or otherwise designated for their critical importance to interregional travel. First recognized in the 1990 Interregional Road System Plan (Caltrans).

Highway. Any road, street, parkway, or freeway/expressway that includes rights-of-way, bridges, railroad-highway crossings, tunnels, drainage structures, signs, guardrail, and protective structures in connection with highways. The highway further includes that portion of any interstate or international bridge or tunnel and the approaches thereto (23 U.S.C. 101a).

Highway-rail at-grade crossing. A location where a railroad line intersects a public or private roadway or other thoroughfare, such as a sidewalk or pathway.

Hotelling. Allowing the auxiliary engines of a ship to run continuously while at dock to provide power for lighting, ventilation, heating and cooling, pumps, communication, and other onboard equipment. (Opposite: see "*cold-ironing*").

Hopper car. A freight car having sloping floors leading down to one or more doors designed for releasing (dumping) the contents (such as coal or ore) by gravity. Such cars are often used for handling dry bulk goods.

Hub. A common connection point for components in a network; a common term in describing a freight transportation network, as in "hub and spoke."

Import. To receive, bring in, or carry in goods from an outside source, especially to bring in goods or materials from a foreign country for trade or sale (opposite, see **Export**).

Infrastructure. In goods movement, the roads and highways, tunnels and bridges, rail lines and yards, seaports and improved waterways, airports, and related intermodal yards and communication systems (including **intelligent transportation systems**) that support the movement of products and raw materials.

Integrated carrier. A cargo transporter (or freight forwarder) that uses its own multiple fleets or equipment (aircraft, ships, trucks, etc.) instead of the scheduled airlines or shipping lines.

Intelligent transportation systems (ITS). Advanced applications of electronics, communications, computers, detection and sensing devices, and similar technologies to improve safety, efficiency, and congestion-free movement typically through transmittal of real-time information.

Intermodal car. A rail car designed specifically for handling piggyback trailers or containers, or both. Intermodal cars may be long flatcars with collapsible trailer hitches, or shorter, lightweight platforms with rigid hitches for use at mechanized terminals. Some newer designs are articulated, and have as many as ten platforms connected to form one "car."

Intermodal freight transportation. Transportation of freight, typically in an intermodal **container** or vehicle, using more than one mode of transportation (e.g., rail, ship, or truck) in a single trip, generally with no handling of the freight itself when changing modes.

Intermodal terminal. A location where different transportation modes and networks connect.

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Just-in-time (JIT) shipping. In goods movement, an inventory control strategy that strives to achieve a steady flow of materials through the supply chain and to minimize or avoid warehousing by having components or products produced and shipped to arrive just in time for use. In this strategy, containers or transporting ships or vehicles may serve as “movable warehouses.” This inventory control method depends on highly reliable transportation.

Lading. That which constitutes a load. The freight in or on a railcar, container, or trailer.

Landbridge. The movement of cargo (such as containerized goods) from one country through the port of another country and then by rail or truck to an inland point in that country or to another country – for example, the through movement of Asian goods to Europe across North America.

Landed cost. The total cost of a product to a buyer, up to the final destination (e.g., at the port of destination or at the buyer’s door), including the original purchase price (cost) of the item, all brokerage and logistics fees, complete shipping costs, customs duties, tariffs, taxes, insurance, currency conversion, crating costs, and handling fees, as applicable.

Landlord port. A seaport where the port authority builds the wharves, which it then rents or leases to terminal operators. The operators, in turn, provide the cargo-handling equipment (cranes, forklifts, etc.), hire longshore laborers to operate machinery, and negotiate contracts with ocean carriers to handle the unloading or loading of their cargoes. (Contrast with **operating port**).

Less than container load (LCL) and less than truckload (LTL). A shipment of cargo that is not large enough to fill a standard-size container; various shippers may pool their LCL shipments together in one container. In trucking, a shipment that would not by itself fill the truck to capacity by weight or volume.

Lift on-Lift off (Lo/Lo). A cargo-handling technique involving the transfer of commodities to and from a ship using shoreside cranes or the ship’s lifting gear.

Lights out facility. A storage or retrieval facility, such as a warehouse or distribution center, with minimal or no staffing.

Line abandonment. Discontinuation by a railroad of rail service and maintenance on a rail line or line segment subject to approval of appropriate federal and state agencies.

Line haul. Movement of freight over tracks of a railroad from one station to another (not a switching service).

Liquid bulk cargo. A type of bulk cargo that consists of liquid items, such as petroleum, water, or liquid natural gas.

Logistics. In the freight industry, a collective term for a wide set of activities dedicated to the production, transformation, and distribution of goods, from raw material sourcing to final market distribution, as well as the related information flows and scheduling.

Longshoremen. Dock workers who load and unload ships or perform associated administrative tasks. May or may not be members of labor unions. Also called **stevedores**. Longshore **gangs** are hired by stevedoring firms to work the ships.

Manifest. A transport document or invoice that provides a summary of all cargo being transported on a train, ship, or truck.

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Manifest train. A freight train with a mixture of car types and cargoes. Also known as a **Mixed Freight Train**.

Maquiladora. Assembly facilities in Mexico, especially those located near the United States-Mexico border, to which foreign materials and parts are shipped (duty free) and assembled into products that are returned to the same market or exported, the facility ownership thus taking advantage of cheaper labor and less restrictive regulations.

Marine terminal. Any designated area of a seaport used for the receipt or shipment of waterborne cargo, typically including wharves, storage areas, loading and unloading equipment, rail and truck facilities, offices, maintenance areas, and other related functions.

Mean Low Water (MLW). A tidal datum (a base elevation used as a reference point). The average of all the low water heights observed over a 19-year period.

Mean Lower Low Water (MLLW). A tidal datum (a base elevation used as a reference point). The average of the lower low water height of each tidal day observed over a 19-year period.

Multimodal. The availability of multiple transportation options, or modes, within a system or a corridor. The transportation of goods under a single contract, but performed with at least two different means of transport (See also **intermodal freight transportation**).

NOx. Generic term for oxides of nitrogen, a family of compounds. In air pollution control, nitrogen dioxide (NO₂) is of primary interest and used as an indicator for the larger group of nitrogen oxides. NO₂ reacts in the atmosphere to form ozone.

Off-dock rail. Freight railyards located not immediately on a marine terminal but rather within the larger region served by a port. Typically, cargo is trucked from a marine terminal or transload facility to these yards, where transcontinental rail service is available.

On-dock rail. Freight railyards located at marine terminals, providing direct shipside rail service. On-dock railyards receive import cargo discharged from marine vessels as well as export cargo unloaded from freight trains. Typically, these yards consist of rail tracks, temporary storage areas for equipment and cargo, and staging areas.

Operating port. A seaport where the port authority builds the wharves, owns the cranes and cargo-handling equipment, and hires the labor to move the cargo. A stevedore hires longshore labor to lift cargo between the ship and dock, where the port's laborers pick it up and move it to a storage or shipping site (contrast with **landlord port**).

Pallet. A wooden, plastic, or paper platform, sometimes with sides and/or a top, on which packaged goods are placed to facilitate movement by forklifts and other freight-handling equipment. Pallets come in a wide variety of types and dimensions; common sizes include 48" x 40", 42" x 42", and 36" x 36". Various organizations, including the International Organization for Standardization (ISO) promote standardization of international pallet sizes.

Panamax vessel. An ocean-going ship with dimensions of the maximum size possible to pass through the Panama Canal. In 2011, these dimensions are: maximum length 295 meters, maximum beam overall 32.25 meters, and maximum draught 13.50 meters. When expansion of the canal is completed, the **new Panamax** vessel will be: maximum length 366 meters, maximum beam 49 meters, and maximum draft 15.2 meters.

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Particulate matter (PM). In air pollution control, solid particles and liquid droplets found in the air.

Particles range in size from visible materials, such as dust, dirt, soot, or smoke, to particles so small that they can only be detected using an electron microscope. Particle pollution includes "inhalable coarse particles," with diameters larger than 2.5 micrometers and smaller than 10 micrometers and "fine particles," with diameters that are 2.5 micrometers and smaller. Diesel engines emit a complex mix of toxic pollutants, including very small carbon particles ("soot") called diesel PM, known to contain over 40 cancer-causing substances.

Performance measures. Objective, usually quantified standards used to evaluate how well a system is functioning when compared to baseline goals or objectives.

Physical Internet. A conceptual initiative that uses the Internet as a metaphor to envision an open, global logistics network of the future, enabled by a standard set of protocols, modular containers, and smart interfaces for increased efficiency and sustainability.

Placard. A sign affixed to a rail car or truck, which indicates the (typically hazardous) designation of the product being transported in that vehicle.

Port of entry. A place where imported foreign goods may be cleared through customs and other authorities; a place where a citizen of another country may be cleared to enter. May be a land port of entry, seaport, or airport.

Positive Train Control (PTC). Technology (operations equipment) that is capable of preventing train-to-train collisions, overspeed derailments, and injuries to railroad workers. Widespread installation of PTC systems is mandated under the Rail Safety Improvement Act of 2008.

Project cargo. Term broadly applied to large, heavy, high value or project-critical materials and equipment being shipped (either domestic or overseas) for a specific purpose, such as for a new factory, highway, oil drilling platform, wind turbine generators, etc.

Proposition 1B. The ballot initiative passed by California voters in November of 2006, subsequently enacted as the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006. Prop 1B authorized the State to sell \$19.925 billion of general obligation bonds to fund transportation projects "to relieve congestion, improve the movement of goods, improve air quality, and enhance the safety and security of the transportation system."

Public-private partnerships. In transportation planning, arrangements between government and private sector entities for the purpose of providing or improving infrastructure, facilities, and services. (Sometimes called **P3** projects.)

Public use airport. A publicly or privately owned airport that offers the use of its facilities to the public without users obtaining special clearances, and that has been issued a California Airport Permit by Caltrans.

Railhead. The end of a railroad line or a point in the operations at which cargo is loaded or unloaded.

Rail yard. A rail terminal, typically with a network of tracks and multiple sidings, at which traditional railroad activities occur, such as assembling trains and sorting and redistribution of railcars and cargo (see **classification**). Railcars in yards are moved by gravity (e.g., rolling into position from a manufactured hill, or **hump**) or by specially designed yard locomotives called **switchers**.

Reefer. In shipping, a controlled temperature (i.e., refrigerated) shipping container.

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Repower. The replacement of an older, more polluting diesel engine with a newer, less polluting engine. May involve the use of alternative fuel sources, such as liquid natural gas or electric power.

Roll on-Roll off (Ro/Ro) vessels. A broad category of ships designed to load and discharge cargo that rolls on wheels. (Also see *Deep-sea shipping vessels*.)

Rolling stock. The inventory of wheeled transport vehicles owned by a railroad or motor carrier; often used in rail transportation, usually referring to both powered and unpowered vehicles, including locomotives, railroad cars, and passenger coaches.

Short line railroad. An independent or subsidiary railroad that operates over a relatively short distance; generally, a *Class III railroad*. Short line and regional railroads operate and maintain 29 percent of the American railroad industry's route mileage, and account for 9 percent of the rail industry's freight revenue and 11 percent of railroad employment.

Short-sea shipping. Commercial marine shipping operations between ports along a single coast or involving a short sea crossing; also known as *coastal shipping* or *coastwise shipping*.

Side-handler. A diesel-powered, container-moving vehicle used at a terminal or yard with a motorized lift and spreader that attaches to the side of an empty container; used for moving empty containers onto or off trucks or stacks of containers. (Compare with *top-handler*.)

Siding. In rail transportation, track adjacent to a main or secondary track for meeting or passing trains.

Slow steaming. The deliberate reduction of a marine vessel's cruising speed in order to reduce fuel consumption, thus lowering operational costs, as well as reducing CO2 emissions.

SOx. Generic term for compounds of sulfur, including sulfur dioxide.

STAA – Surface Transportation Assistance Act of 1982. The Surface Transportation Assistance Act (STAA) allows large trucks, commonly called STAA trucks, to operate on routes that are part of the National Network. The Federal Highway Administration (FHWA) provides standards for STAA trucks (based on the Code of Federal Regulations Title 23 Part 658), which designate the truck sizes that all states must allow on the National Network. (The National Network includes the Interstate System and other designated highways that were a part of the Federal-Aid Primary System on June 1, 1991. The "other designated highways" are listed in Title 23 Part 658, Appendix A). STAA standards vary according to types of trucks. For a STAA truck tractor-semitrailer combination (18-wheeler), the semitrailer may be up to 53 feet in length. (See *trucks*.)

Stevedore. A labor management company that provides equipment and hires workers to transfer cargo between ships and docks and is responsible for the loading or unloading of ships in port. Also used to mean an individual worker (i.e., a *longshoreman*).

Straddle carrier. Motorized, rail-mounted or rubber-tired, container terminal equipment that straddles a row of containers and is used to move containers around the terminal; may also move containers to and from truck chassis. Straddle carriers can typically lift up to 60 tons or two full containers. (See *transtainer*).

Strategic Highway Network (STRAHNET). A network of highways which are important to the United States' strategic defense policy and which provide defense access, continuity, and emergency capabilities for defense purposes.

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Strategic Rail Corridor Network (STRACNET). An interconnected and continuous rail line network consisting of over 36,000 miles of track serving over 140 defense installations.

Supply chain. A network of production, trade, and services required to move a product or service from supplier to customer, beginning with the transformation of raw materials, through intermediate manufacturing stages, to the delivery of finished goods to a market.

Sustainability. Policies and strategies that are aimed at meeting contemporary social needs without compromising the ability of future generations to meet their needs.

Switching. Movement of freight cars between two locations in close proximity. Typically involves moving cars within a rail yard or from specific industry locations to a yard for placement on a train.

Tank barges or tankers. Ships used for transporting bulk liquids, such as petroleum, chemicals, molasses, vegetable oils, liquefied gases, etc.

Tank car. A railcar used exclusively for transporting liquids, liquefied gases, compressed gases, or solids that are liquefied or compressed prior to loading.

Tare weight. The weight of clean, empty equipment – e.g., the weight of a rail car containing no lading or packing and debris resulting from previous lading.

Tariff. A schedule or system of charges, duties, or fees imposed by a government on imports or exports.

Terminal. Generally, a facility at which freight is received, handled, and shipped. Usually a location where vehicle combinations (rail cars, trucks, trailers, chassis, etc.) are regularly exchanged and temporarily stored. In rail transportation, a railroad facility used for handling freight and the receiving, classifying, assembling, and dispatching of trains. (Also see **rail yard**.) At seaports, a wharf area where an owner or tenant operates cargo-handling equipment to load and unload ships. (Also see **container terminal**.)

Terminal Access Route. A designated truck route from a STAA-designated route to a terminal. Federal law requires that states allow STAA trucks reasonable access to terminals.

Third-Party Logistics (3PL) Provider. A specialist in logistics who may provide a variety of transportation, warehousing, and logistics-related services to buyers or sellers.

Throughput. In goods movement, a measure of how much cargo is moving through a system, measured in terms of volume of trucks, trains, or cargo.

Ton and Tonne. A **ton** (also known as a **short ton**) is a unit of weight equal to 2,000 pounds, used almost exclusively in the United States. A **tonne** (or metric ton) is a unit of weight equal to 1,000 kilograms, used everywhere else in the world. A tonne is equivalent to about 2,205 pounds.

Top-handler. A diesel-powered, container-moving vehicle used at a terminal or yard with a motorized lift and spreader that attaches on the top of an empty container; used for moving containers onto or off trucks or stacks of containers. (See **side-handler**.)

Trackage rights. In rail transportation, rights obtained by one railroad to operate its trains over another railroad's tracks.

Glossary

Tractor-trailer. A combined trucking vehicle consisting of a motorized towing engine and cab (tractor) and an attached trailer, semitrailer, or both (a double) having four or more axles (also known as “semis,” “big rigs” or “18-wheelers”).

Trade barrier. A (usually) government-imposed restriction on the free (usually international) exchange of goods or services. May take the form of import policies, tariffs, licensing, or other restrictions.

Trade Corridor Improvement Fund (TCIF). One of the key program elements authorized by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, approved by the voters in 2006 as Proposition 1B. The \$2 billion fund is available to the California Transportation Commission (CTC), as appropriated, for programmed infrastructure improvements along federally designated "Trade Corridors of National Significance" or other corridors with a high volume of freight movement.

Trade Corridors of National Significance. A federal designation under SAFETEA-LU. One of the categories of facilities available for funding under TCIF.

Trailer on flat car (TOFC). A container placed on a chassis that is in turn placed on a railcar.

Tramp shipping. In marine transportation, shipping by means of a vessel that does not operate on a published schedule, but serves different ports in response to tenders of cargo.

Transloading. The operation of transferring cargo from one transportation mode to another. May also refer to the operation of transferring cargo from one container to another for any of a number of reasons, such as for consolidation, weight restrictions, palletizing, leasing contract requirements, or supply chain management (e.g., to synchronize delivery of goods to meet real-time demands).

Transload facility. Any place where transloading is conducted.

Transshipment. The shipment of goods (or containers) to an intermediate destination by one carrier, then shipped again to another destination by the same or another carrier. Shipments transferred from one transportation line to another, such as from rail to a water carrier.

Transtainer. Large, motorized, rubber-tired gantry (RTG) or rail-mounted gantry (RMG) hoist used to move and stack containers in a yard or at a terminal. Transtainers can lift 30 to 40 tons and straddle up to six rows of containers stacked five or six containers high. May be used to load or unload containers on trucks, terminal chassis, or rail cars.

Trucks. Any of a broad range of motorized vehicles used to transport freight. The Federal Highway Administration (FHWA) classification system recognizes 10 types of trucks, with classes 4 through 7 being medium-duty trucks, and classes 8 through 13 heavy-duty trucks. In intermodal transport, freight is often carried by tractor-trailers; the tractor is the front part, including the cab, and the tractor is the detachable wheeled chassis behind the tractor on which the container is placed. Tractor-trailers with a semitrailer, trailer, or both and four or more axles may be known as “semis” or “18-wheelers.” The largest trucks that may operate legally in California are defined by the federal Surface Transportation Assistance Act (STAA) of 1982. A STAA semitrailer may be up to 53 feet in length, with a kingpin-to-rear axle (KPRA) maximum of 40 feet, and with no overall length limit. The maximum length for a California legal truck tractor and semitrailer combination is 65 feet overall. A motor truck (3 axles) and trailer or semitrailer combination (double) may be 75 feet.

Glossary

Tugboat and towboat. A tugboat is a type of harborcraft used for maneuvering larger ships in and out of port. A towboat is a type of watercraft used to pull (tow) or push barges.

Twenty-foot equivalent unit (TEU). A standardized transportation (often maritime) industry measurement used when counting cargo containers of varying lengths. Used as an approximate measure for describing a ship's cargo-carrying capacity, or a shipping terminal's cargo handling capacity. A standard forty-foot (40 x 8 x 8 feet) container equals two TEUs (each 20 x 8 x 8 feet). Ships can carry about 4,500 to 15,000 TEUs. Trains can carry about 240 TEUs; trucks only carry one or two TEUs.

Unit train. Freight trains moving large tonnages of a single (often bulk) product between two points without intermediate yarding or switching.

Velocity. In goods movement, a measure of how fast cargo is moving through a transportation system, typically measured in terms of average vehicle speed per unit time.

Warehouse. A commercial building used to store goods. Warehouses usually are located and designed to facilitate movement and handling of materials, components, or products, with truck (and often rail) access, loading docks, and vehicle storage. Cool warehouses or cold storage may be used for agricultural products. Large (e.g., "big box") stores may combine warehouse and retail functions in the same building.

Waybill. Document used to identify the shipper and consignee, routing, cargo, rate, weight, and other shipping information.

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